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LIGHTS AND SHADOWS OF LONDON LIFE.

BEHIND THE SCENES.

EVERY child who hears a watch tick, and marks the golden hands revolve so deftly over the smooth face, desires to see the inside of it, and will not be persuaded by his elders that wheels and main-spring are disappointing spectacles. Similarly every young fellow who goes to the Play, and beholds from stall or box the Fairy wonders of the Stage, is desirous of going Behind the Scenes. It is not idle curiosity alone which, as in the child's case, prompts this yearning. He knows that the opening of the stage-door is not so easily compassed as that beside the box-office; there are difficulties in the way which whet his ambition. He understands, too, that the aristocracy (male) of his native land pass their evenings in the precincts in question; and he dearly loves to be where they are. Finally, the idea that there is a *soupeon* of impropriety about the proceeding—a touch of 'fastness' and town-life—completes the catalogue of incitements. It will be easily believed that this third reason, at all events, had nothing to do with the visit of this Home Correspondent—who is Nothing if he is not Correct—behind the scenes of the Great British Theatre. That element, it will be acknowledged at once, was as foreign to his enterprise as to the undertaking of Christopher Columbus, or to the rediscovery of Nineveh. Nor is it necessary to disclose by what means the H. C., whose initials are an open Sesame everywhere from the Palace to the Refuge for the Destitute, obtained admission to that mysterious locality of 'wings,' and 'traps,' and 'flats,' fraught with such danger to the Impressionable.

The stage-door of the G. B. T. (like the alphabet, through which we pass to the delights of literature) does not impress one favourably in itself, nor at all foreshadow those realms of splendour and enchantment to which it gives access. It is situated in an ill-lighted back-lane, always filled by cabs, which, having once deposited their dramatic fares, are forbidden (as I conclude) by the narrowness of the way from all return, and remain there until some favourable opportunity (such as the burning

of the Theatre, which takes place at pretty regular intervals) shall occur, and once more restore them to their legitimate Rank. The vestibule reminds one—or rather would have reminded any one who was acquainted with such localities—of that apartment, half-cell, half-office, in which the inspector at a police station is accustomed to take the night-charges; while a winding narrow stair, with steps of stone and railings of iron, precisely such as ornament Her Majesty's prisons—except that it is far from clean—leads down to the Bowers of Bliss and Dells of Dreamland.

What strikes one most, upon first setting foot on these mysterious boards, is the enormous space they occupy. There seems to be a theatre—except that it has no dress-circle nor gallery, and terminates not in ceiling but in chaos—*behind* the scenes, fully as large as that which we know to be *before* them. Vast curtains, canvases, obstacles with whose very nature we are unacquainted, but which look like advertising hoardings, interpose at various distances between ourselves and the stage, on which the Christmas pantomime is being enacted, and yet there appears to be room enough to drill a Volunteer brigade in. A solitude like that of Sahara, and about equally dusty, spreads around us, illumined by flaring gas-jets in wire-cages, and overshadowed in one corner by an artificial firmament not in use, out of which the moon has dropped, and the stars hang in a state of doubt, as well they may, as to what course should be taken by their courses in a case so altogether unexampled. The great globe itself is also there, but drunk and incapable, its fair proportions dinted like a squeezed orange, and the Pacific Ocean clean carried away (as might have been expected) by the fall of the moon.

There are seasons of spectacle when the stage of the G. B. T. is used to its very limit (to represent excessive Distance or vast Numbers), but upon the present occasion, as I have said, there is a great deal of space unoccupied save by theatrical lumber, and untrodden by the human form divine. But not so by the fairies, who are diviner still. See, here comes one, in a charming costume, although there is so little of it, all gauze and glitter, with a

gleaming crescent on her brow, to shew that she is not the Venus which we took her for, and a silver something in her hand of eccentric shape, which we know to be a bow, because at her back there clangs a quiver; like a sunbeam, threading its way through dust and gloom, how gracefully she trips among the rubbish, here coasting by a gigantic paint-pot, there tacking to avoid an oil-jar, but always smiling like the Morn she never sees. The Home Correspondent trembles in all his limbs, grasps at his introducer (who regards his weakness with contemptuous pity), and acknowledges in every lineament the fealty which he pays to passing beauty. There is a pasteboard fountain in her way, suggestive, by the by, of anything but water, and I hasten forward to remove it; it yields to my unnecessary force, as lightly as though I had taken a roll of bonnet-ribbon for an iron garden-roller, and I almost measure my length at the fairy's feet. 'Pray, mind my wings, sir,' says she, with a pettishness which, in one's wife perhaps, one would call ill-humour, but which appears in this sylph to be the prettiest form that remonstrance ever took; and on she trips, as though a human heart like mine could recover from her relentless tread as easily as a crushed daisy.

'How are you, Kitty?' observes my friend, and this ethereal being responds: 'How are you?' at the same time giving him an enchanting hand, which he does not raise reverently to his lips, but shakes with unaffected heartiness, as though it belonged to some club-friend of his newly turned up from the country. 'A thorough good girl is Kitty,' remarks he in explanation, as she vanishes round a corner, 'who supports her sister, who has a bad spine, and I am afraid stints herself to procure for that sister little luxuries.'

So, you see, she was an angel instead of a fairy, after all.

To suppose, indeed, that 'behind the scenes' is a place devoted to flirtation, or that every Coryphée is a flower for the human butterfly to amuse himself with, is to commit something worse than a mistake: it is to do a wrong. The thoroughly business air with which she goes about her duties (which are by no means light because they are graceful) is worthy of Threadneedle Street or (let us say) of Angel Court. There is this marked difference, however, in favour of the lady; becoming as are her artificial adornments, there is an unaffected good-humour about her which is more winning (to honest folks) than they. Her manners are totally free from *mauvaise honte*, but they are by no means 'bold.' She is unaware of there being any peculiarity in her costume, for indeed she is attired like the vast majority of her sex in that strange sphere. Her mamma is there, very likely, in a poke-bonnet, and ordinary wraps of a warm texture, and I protest that she looks the more grotesque and unreal of the two; so familiar has the scene already grown; so easily do we conform ourselves to that world of tinsel and gilding, peopled by Fays and Sprites—that atmosphere of

heat and intense light, with sullen waves of sound (which is Applause) breaking in at times from the 'house' before the curtain.

Fay meets Fay with a cordiality (although they have doubtless their jealousies) which is very rare among ladies of fashion: 'Jemima, darling, just set my quiver right, will you?' or 'Kitty, dear, let me straighten your wings.' Their behaviour, too, with those young gentlemen who are evidently *habitués* of the place, is artless and sister-like. There was certainly less flirtation than is seen, after a *déjeuner à la fourchette*, on the lawn of many a respectable villa-residence on the banks of Thames; and perhaps less misunderstanding of mutual position. I am bound to say that there was one exception to this good-conduct upon the part of a certain visitor, who, in the graphic and well-chosen words of an indignant goddess about to ascend to the empyrean upon a cloud, was both 'old enough and ugly enough to know better.' This ancient gentleman—or nobleman for all that I know—went about with his faded airs and smileless face, whispering soft nothings to very little purpose, and, as it appeared to us, got considerably snubbed; but after a little, to our great content, he took himself off, instead of being taken, as he ought to have been, down the nearest trap, by Demons, and condemned there to wind windlasses of endless chains until the theatrical season terminated. There were depths below that would have afforded every accommodation that he deserved; gloomy abysses, which we presently explored, with a vague impression of dust, and darkness, and the lifting of heavy weights, such as might have been produced by visiting Great Tower Street in July during an eclipse. Then again we mounted to the 'flies,' where, in dusty gloom, the carpenters sat by the vast cylinders of rope, with their fingers on the iron handles, waiting for the signal from below; also into the Painting Room, a desolate chamber, whose immense extent might have taught perspective to the artist of the willow-pattern plate; nay, we were even shewn the door—only the door—that opened on the sanctum which 'young persons' in the receipt of a guinea a week as ballet-dancers entered shawled and cloaked, and came forth glorious with gauze and spangles as Daughters of the Sun. But wherever we went, no matter what the gloom, through cracks and clefts, the glare and glitter of the stage would force its way; and no matter what the distance from 'the house,' those sullen waves of sound, that were applause, would yet be heard.

Then once again back to our place at the Wing, for the juveniles, attendant sprites of the stage princess, are about to 'go on,' and that is a sight not to be missed. Not one of those little folks before the curtain, the clapping of whose tiny hands and whose shrill laughter gladden all ears, is merrier than these child-actors. The officials who are appointed for that purpose (and a kinder set of teachers I never saw) have enough to do to restrain their eager pupils, as they crowd around to receive their various 'properties' to take with them on the stage. How they shake their little wings with glee, and perk and chatter like a flock of linnets, as the kind old lady gives them each what he or she should have; and how proud and happy seem the two or three pale women in humble dress who have come to see how their little darlings look in all their bravery. A considerable number

of these are not to be seen at all, being the living inmates of peripatetic game-pies, trussed turkeys, and a score of other gigantic delicacies which are to form an enchanted banquet on the stage; and it was pretty to hear the bystanders telling the Punchbowl to walk straight, and to see them guiding the slender bottles of champagne in the way that they should go. This mixture of domesticity with the unreal splendours of the place, is to be met with everywhere. The clown, who is not yet dressed for the harlequinade, and, indeed, who looks uncommonly like a Methodist parson, is asking some question of his wife, who is not herself of the theatrical calling, with respect to their youngest child, who, I gather from the conversation, has been sufficiently unwell to require a gray powder; while the young princesses, who apparently inhabit the same palace together, are debating as to whether the clerk of the kitchen (who may be a maid-of-all-work or their own mother) will remember to have cooked their potatoes for supper with their jackets on, as was particularly enjoined.

Looking from the wing at the house itself, the spectators seem to be a totally different set of persons from ourselves, who are by this time thoroughly identified with the folks on our own side of the curtain. It is the former who are the puppets, not the latter; or, rather, they are so unindividualised and massed together, and at the same time so diminished by distance, that they appear to be more a counterfeit presentment of our fellow-creatures than real people. But something is now occurring to engage our wrapt attention, as it engages that of all those who have not their own work to do upon the stage just at present: a long 'trap' in the floor is opened, and reveals a deep dark chasm, down which a poor carpenter fell, as we were told, a few nights before, and was carried out dead to pantomimic music; up this comes slowly an enormous iron frame, gaudily painted to represent foliage, and which is to bear for fruit the most beautiful of the 'rose garden of girls' about us. This is presently to form the background of the magnificent Transformation Scene, at which the dropping fire of applause will culminate into a *feu de joie* from all parts of the house. Again and again, the slow progress of the huge machine is checked, that this or that lovely creature shall be, Andromeda-like, securely bound to it, and always in the most graceful position to please that exigent Monster, the Public, for whom she is designed. We are close by, and watch them under the full glare of a hundred gas-jets, and certainly, for form and comeliness, they have no cause to dread the jealous scrutiny of the most powerful opera-glass; but to see them as they laugh and talk good-humouredly among themselves during the initiatory process, is a pleasanter sight than the stereotyped smile and artificial languor which will steal over them in a few minutes. It is upon this scene, that in these days of spectacle, the success of a pantomime mainly depends; and among sylphs and fairies, to possess beauty and shapeliness is to be in a position to demand a considerable salary. It is entirely from this practical point of view that the whole affair is regarded from 'behind the scenes,' and if any remark of a depreciatory character is overheard, it has reference to that only.

'I call it disgusting!' observes a shrill female voice in my neighbourhood, so shrill that it cannot

but reach the ears of the lovely being for whom it is intended, reclining upon a golden branch about twenty feet above us, in a costume unquestionably scanty. 'I should be ashamed to get my money that way.'

That was the first and the last observation that I heard in the G. B. T., which was calculated to produce shame, and therefore pain; the remark was as much out of place and taste as though in an exhibition of statuary somebody should begin to talk of tailors; but not by the twitching of a muscle did the lady aloft betray that she was aware of the presence of the lady below. The latter stood in no danger of such a temptation as that which she seemed so self-persuaded of being able to resist; she had seen her thirty summers, and, to judge by her worn pinched face, poor thing, at least the corresponding number of winters; her garments, though gauzy, were limp and soiled; her white satin shoes were dingy; her wings were battered; her silver wand had very little of the precious metal left upon it. She was that most obvious example of the text *Vanitas vanitatum*, an Old Ballet-girl! Never more would manager demand her services at her own price, by virtue of that haggard face, that shrunken form. Long after the beautiful being at whom she sneered—who, by the by, it is but fair to say, I was afterwards informed, was one of the best and honestest girls in the theatre, the chief part of whose salary found its way to other pockets than her own—long after the coryphæes of the Transformation Scene had gone home, this poor faded creature, and a hundred others like her (a painful sight, indeed, by contrast with their more prosperous and youthful sisterhood), had to wait until the conclusion of the piece, when they 'came on' amid the red-fire and the blue (for what complexions, alas! had they to suffer by it?) and waved with their thin arms a mute adieu to people who were putting on cloaks and shawls, and scarcely looked at them at all. It is as though Nature should send us ancient butterflies with faded down in the late autumn. In future, when we go to the play, my friends, let us always keep a 'brava' and a clap of the white gloves for the Last Scene of All.

Saddened by this sight, yet not so sad but that we felt we could eat supper, we left the G. B. T. with that good end in view, when, behold, the winter sky to southward one dull glare of red, and every other word that we heard spoken in the streets was 'Fire!' Fire! At that sound, I thought with a shudder of the atmosphere of blinding light and intense heat (and yet with draughts which would have smitten flame to frenzy) in the place we had just left; of the hundreds of flickering gas-jets; of the pasteboard scenes that would be touch-wood to every tongue of fire; of the gauze and gossamer garments, scathed at a flash along with those they clothed; of the iron frame upon which those helpless beauties might have been offered up to Moloch in that valley of Tophet from which we had just emerged—I had almost said escaped. 'Where is the fire?' asked we. And each hurrying passenger, bound for the same spot, but with his own peculiar notion of where it was, gave us a different reply. 'The Houses of Parliament!' 'Westminster Abbey!' 'The Archbishop's Palace at Lambeth'—while one old gentleman who had supped freely, and forgotten the points of the compass, replied: 'The Br—ish Museum, sir.' At last

we came upon a fireman's station, where the engine was being got ready in hot speed, and learned where the fire really was.

It was at the Surrey Theatre!

FROM TEHERAN TO SAMARCAND.

THERE are many kinds of courage, and it is a quality which has numerous standards. Every one is welcome to have his own ideal of heroism, and his own pet hero, among ancient instances and personages, and down to our days; but we beg to pronounce, on our own individual account, in favour of Arminius Vambery, a Hungarian gentleman of scientific tastes and fame, who commenced, in 1863, one of the most wonderful and perilous journeys ever undertaken by a traveller, and who has recorded his achievements in one of the simplest and most unpretending books ever written. In every point of view, this gentleman's undertaking presents itself in a surprising form. It has been truly, if roughly, said of African travel: 'Money and pluck will do it.' But 'money' would not have done anything for Arminius Vambery, except assure his prompt discovery and inevitable slavery, if not murder, and 'pluck' was the least of the qualities which he needed; not for a start, not for emergencies, not at intervals, but for his steady, constant, incessant inspiration, and for an indefinite period, during which the pressure of an extreme and deadly peril was never lifted off him for one instant.

There is no region in the world which is so vague and awful as that immense space on the earth's surface which we call Central Asia. There the mind is most fiercely and hopelessly baffled, when it strives to get at an unbroken, continuous view of the history of mankind. The life of savage nations is strange, but nevertheless it lies on the surface; it has no story of the past, it has ample possibilities for the future. But these Asian people—these fierce, fanatical, secret, reserved, suspicious, terrible people, dominated by a faith full of cruelty and childishness, of cunning and absurdity—these people, whose faculties of self-deception are boundless, whose aspirations are wholly sensual, and whose lives are full of incredible privation, imposed by their own inconceivable credulity—they are an insoluble problem, partly attractive, partly repulsive, but of ever-growing interest, as we learn to understand their overwhelming numbers, and the indomitable power of the faith of Islam.

It is at all times strange to think how much of the earth is desert. We take in the idea piecemeal; we talk of this desert and that, and give them names, but we become tired and confused when we try to make a mental panorama of the awful wastes which gird the earth like a short-waisted girdle, with an interruption of magnificent civilisation for a jewelled clasp. Man has dared this desolation in every direction. The forests of the West, the plains of Gobi, the sands of Sahara, have been invaded by his intrepid activity, and investigated by his science; but supremely terrible above all these feats is that performed by Vambery, when he journeyed through the awful wastes which lie to the east of the Caspian and beyond the Balkan ranges. The loneliness of very distant travel is one of its most striking features—that one which sets it apart from tourist experiences, and the semi-recreative aspects of European adventure. But

even this loneliness is not complete; it is a solitude *à deux*, as in the case of the African explorers, or the *camaraderie* of an expedition, as in that of the Arctic voyagers; but Arminius Vambery went into the heart of Central Asia, not only alone, in so far as being unaccompanied by any countryman or kinsman—any one who shared his purpose, his danger, or his success—but surrounded with men whose dearest feelings and prejudices his presence outraged; who, if they had discovered his identity, would have slain him on the spot, or sold him into a slavery, of whose horrible conditions the most imaginative, the most credulous believer in the atrocities of the middle passage and the plantations could not form an idea, but which he tranquilly records.

Here is a European, who assumes the character of an Asiatic, not of an ordinary person engaged in the ordinary business of eastern life, but of a dervish, a religious fanatic, whose appearance, gait, dress, speech, manner, expression, must all be in perfect accordance with those of a number of fanatics, like his pretended self. He must have all these qualities without their producing and sustaining cause; he must face the desert without the panting desire, the mad eagerness, half faith, half vanity, which strengthen the muscles and swell the hearts of the Hadjis, about to win eternal blessedness and temporal renown. He must be among them, always, scrupulously concealing any interest in the features of nature, or the ruins of bygone and lost civilisation, hiding as carefully the objects of his journey, as other travellers openly display theirs. He is an actor who must never abandon his part for a moment, or he will pay the penalty of his life for the relaxation; his only chance of safety is in forcing his mind away from its identity, resolutely denying himself the luxury of thought and association. The European, among savage nations, looks about him, questions, and is questioned, and takes a position of natural superiority naturally, and for the most part successfully. The European who would penetrate into the wilds of Turkestan is a spy in a foreign army, and holds his life by so uncertain a tenure, that one feels astonished that this man's mind, however strong, however courageous his nature, could have held out under so awful and prolonged a struggle. Eleven months of daily, hourly danger of life, under the most favourable conditions, would be terrible to think of. But what were the conditions of those eleven months of peril? So strange and whimsical is the manner in which Vambery states them, that he makes one smile, and shudder, as he debates the probabilities of his having enough physical strength to endure the hardships arising from the elements, unaccustomed food, bad clothing, without the shelter of a roof, and without any change of attire by night. He mentions, too, without laying any particular stress on the circumstance, that he is lame, and therefore easily tired.

So this lame man leaves Teheran, one of a caravan of Hadjis, a wandering beggar; and as they advance towards the Elburz Mountains, chanting hymns from the Koran, he glances stealthily backwards at the gilded dome of Shah Abdul Azim, and so bids adieu to the last outpost of civilisation. What an extraordinary company that must have been! But when one reads this wonderful story, in which the writer makes so much of others, and so little of himself, it produces an effect opposite to his intention, and one is profoundly occupied with the

man who did this wonderful thing. The way is beautiful at first, for it lies through Mazendran; but the traveller is troubled in the enjoyment of its loveliness, for the terrible wastes lie beyond, and hunger and thirst are inexorably waiting there, deadly and patient, like the crouching tigers which spring upon the caravan when it camps in the Forest. But hunger and thirst will not yield so easily; rusty sword and flickering torch may not frighten them. Man has no spell of cajolery or fear wherewith to conjure the demons of the desert. The caravan nears the Caspian, halts at Karatepe, passes the hill whence Nadir Shah was wont to review the thousands of wild horsemen who flocked to his banners from the remotest recesses of the desert; crosses an arm of the Caspian, and enters the territory of the Turkomans. From this moment, Vambéry could never lay aside the plenary attributes of his dervish character, and his danger was renewed by every comer who resorted to him in the double capacity of Osmanli and dervish, for blessings, charms, and 'holy breath.' What a wonderful life! Was his secret ever unbearably burdensome? What were his thoughts in the solemn night, when he could commune, unseen and unsuspected, with the God of the Christians?

The caravan journeyed on and on; we may trace its progress by the red line on a map, where names grow fewer, and blank spaces wide and frequent; it passes ruins which were once halls and forts, built by Alexander the Great, and Vambéry's danger is very imminent, for he regards them with curiosity, unseemly on the part of a dervish and true believer. But there is even a deadlier element in his danger soon, and he needs all his marvellous self-command to meet and baffle it, for he is forced to witness the cruelties practised by the Turkomans upon the Persian slaves—to witness them with the stolid indifference of a dervish and true believer. To see men and boys fettered, starved, tortured, and insulted, day by day, by the masters who extended frank hospitality to the caravan; never to be able to conquer the useless agonising compassion, the indignant rage, the shuddering disgust, but yet to be forced to conceal it. To live amid such sights and sounds of cruelty and suffering would be terrible enough, even if the physical conditions of existence had not included innumerable hardships and revolting food. Vambéry is delicately reticent on this point; he only plainly indicates camel and horse flesh, and veils the other horrors in hints. So to Ettek, where the hideous sufferings of the slaves are at their height, and where he is called upon to admire some magnificent feats of horse-stealing. The dismal waste-lands are near now, and the lameness is beginning to tell, so the traveller journeys in a basket slung by the side of a camel, and balanced on the other side by sacks of flour. Soon there is no trace of any path indicated by foot of camel or hoof of any other animal, and the course is steered by the sun and the pole-star, which the Turkomans call by a name that means 'the iron peg;' and thus, even in this, indicate the nomad life, drawing all its meaning, all its associations from the tent. Still, one is more occupied with the man than with the journey. One tries to realise the thoughts which occupied him day by day; to discern the fears which must have shadowed, if they did not shake his steadfast soul; the sadness that must have

darkened solemnly his stout heart; the longing for home with which he must have done battle; the phantom-peopled solitude through which he moved in a disguise which extended to his whole being.

The Little Balkan is passed; the heat is pitiless; the march is broken into short intervals; food, the coarsest unleavened bread, to which the Turkomans add sheep-fat, is scarce, and water is becoming priceless, measured by drops, each man carrying his own supply in goat-skins, and guarding it with the fierce vigilant selfishness that is one of the horrible growths of the Great Desert. Through salt-plains, by morasses, into territory where the predatory Tekke wander; the caravan cuts the ancient bed of the Oxus; the Balkan disappears in the blue clouds; the wastes spread before and around them, with interminable hills of sand, on which the sun rises and sets with one invariable yellow glare, and where the dreadful stillness of death reigns unbroken. What is human life there? Of what value are the patient beasts? The sublime and terrible desert takes no account of them, and soon the men and the beasts are drawn into a closer fellowship than that of their loneliness and their labour—the horrid sympathy of suffering. For the enemy is upon them—the remorseless thirst of the desert. The goat-skins contain only a little muddy sediment, when the caravan encamps near Yeti Siri, or 'the Seven Wells'—three remain now, and supply foul, brackish water. Men and beasts drink of it with pitiable delight, and the disguised European alone is moderate, for he knows disease lurks in the fetid draught. On again, and the dread need once more arises—the search recommences. They come to a cave; and out of it a wild man rushes—an awful creature—clad in skins, and debased to the similitude of the lower among the brutes. The disguised European betrays his horror; but his companion is undisturbed, and explains that the wild man is a murderer, and accursed, who has fled into the desert with blood upon his hands. The European shrinks and shudders at the thought of this life, but soon forgets it, for they find no water. Why did they not watch and follow the wild man? He must have known where water was.

So night fell, and the stars looked out over the Great Desert and the caravan, where men and beasts lay in the agonies of thirst, not so terrible as in the day, for the cold was merciful, but dreadful in the stillness and forced inaction. What were the thoughts of the disguised European, as he lay, in utter feebleness, unable to eat? Did he think of 'the cup of cold water' of the Scriptures, and learn to estimate it by an eastern standard, as he saw men refuse the gift, the loan, the sale of a drop of water during that journey, brother to brother, and father to son? Did the Christian, in the midst of the heathen, learn the full significance of the protection and care of Him who 'leadeth us beside still waters, and restoreth our souls?' Was ever sound so welcome as the low growl of the thunder which broke with the morning, and rolled away over the immeasurable expanse of the desert, heralding, with majestic announcement, the blessed rain?

Thus, with intervals of hunger and thirst, with constant fatigue, and more or less successful begging, and sale of blessings for meat and money, the caravan reaches Khiva. Fresh dangers beset Vambéry—danger of detection, emphasised by the fearful cruelties which he sees practised on slaves

and prisoners—danger from climate—and surely, though he never says so, danger from despondency. But all are surmounted by coolness, by readiness, by dauntlessness, which fill us with admiration.

Between Khiva and Bokhara lies the desert again, even more terrible than before, and more interesting, for the nomadic tribes of this region are the Kirghis, who dwell only a few hours in one place; and the Persian slaves, sent to tend their master's sheep, and kept at starvation-point, lest they should attempt to escape. No peril which the journey could bring forth was spared to the caravan. An alarm of robbers forced them to turn aside from the banks of the Oxus, whose waters are the sweetest in the world, into the sandy desert, where the torments of thirst again awaited them, and the rushing mighty wind was ready to sweep down upon them, with its terrible auxiliaries of burning sand and darkness, to envelop them in whirling clouds of dust, and lash them with scorching strokes, and then to rush on, leaving them behind, to exhaustion and fever, in search of the next drift of human wails destined for its deadly toying. Through all this suffering and wretchedness, when the camels, unable to endure the pitiless toil and want of their native wastes, died under their loads, amid the white bones of their predecessors—the sole landmarks in that kingdom of despair; when men framed the syllable which means 'water,' with mouths of a ghastly gray colour, and black tongues, and so died, and the dead mouths could not be closed, or the shrivelled lips drawn over the sharp crusted teeth, the dervish lived. But an hour came when his companions had to lift him from the camel, and lay him down upon the ground, as just about to die: he ceased to think, and fell, as they say men have done between the turns of the rack, into a deep sleep, but awoke in a mud-hut, surrounded by grave, kind men, with soft eyes and long beards, who told him he was within ten miles of Bokhara.

Arminius Vambery journeyed from Bokhara to Samarcand, and from Samarcand to Herat; he returned to Teheran in perfect safety, after having endured the extreme of poverty and privation in the Afghan territory. He wrote and published his book in London; and he asks, is it surprising that he should sometimes stand, bewildered like a child, in Regent Street, thinking of the deserts of Central Asia, and of the tents of the Kirghis and the Turkomans?

LADY FLAVIA.

BY THE AUTHOR OF 'LORD LYNN'S WIFE.'

CHAPTER XXV.—DARK THOUGHTS.

LORD HYTHE stood, apart from the others, turning over the leaves of one of those albums of photographs which are among our modern Lares. But his thoughts were not with the sun-pictures on which his eyes were idly bent; he was thinking of Lady Flavia, and not as lovers think.

It had been a mistake, that notion on the part of his soft-hearted sister, that dear Augustus was pining and moping on account of dear Flavia's rejection of his hand. Such a simple solution of the young M.P.'s reserve and moodiness was very far from the truth. On the terrace, on that day when the utterance of the monosyllable 'yes,' in the place of 'no,' would, barring the chapter of

accidents, have placed the pearl-pointed coronet of Mortlake on Lady Flavia's head, Lord Hythe had lost his. He had been intoxicated, led away, spell-bound, by the excitement of the moment, and by the witchery of the beautiful little fairy whom his mother and sisters desired him to marry. When he said, afterwards, that he was afraid he should come to be more deeply in love than he cared to be, he spoke a truth of broader application than the conventional despair of a rejected admirer. He was sincerely afraid lest, in spite of his reason, in spite of his prudence, and, above all, in spite of a warning voice within him that cried, 'Beware!' he should become the slave and the dupe of this wondrous little syren with the blue eyes and night-black hair.

He had always felt some hidden instinct warning him against Lady Flavia; always, even from the first. And yet he was a good-humoured honest Englishman, not disposed to severe judgments on light grounds. He had been favourably inclined, before he saw her, towards this poor lonely orphan, who had borne the burden of another's sins, and whose cheerless girlhood had been passed among strangers. When he saw her, he saw, as others did, that this neglected daughter of a noble line possessed gifts that would have enabled her to do credit to any rank, however lofty. Had her face been her fortune, had the Earl Francis left her nothing, she might still have been a wife of whom princes might well have been proud, if— That terrible If! If the heart within were worthy of the beautiful form that enshrined it; if the courage, and the sweetness, and the grace, and the power, were not merely the weapons by which a hard and unscrupulous spirit strove for mastery in the battle of life.

Lord Hythe would marry no woman that he could not respect and trust, wholly and entirely, with a full and sincere confidence, and a love anchored on esteem. There are men who can bow in no feigned homage before an idol that they despise or distrust. He was not one of them. Perhaps he was himself too cold, too critical; but he was thoroughly honest. He could have loved his beautiful cousin with a fervour new to his nature. With such a friend, such a consoler, such a wife as she might have been, to share his joys and sorrows, to nerve him for toil, and whisper 'Hope!' in the day of discouragement and baffled ambition, he might have done something for England and for fame. But he could not trust her. He could not read her nature, but his instinctive repugnance warned him back. He was like one who should possess the knowledge, that deep down beneath the green vineyards and the pleasant meadows, the fiery gulfs were yawning hell-like, and the red torrents of molten lava were gathering for the day of doom.

When once suspicion is awake, the watchful sentinel is always ready to catch at the veriest trifles that may confirm a foregone conclusion. So it was in this case. A slight inflection of voice, a heedless word, a look surprised at some moment when the mask, if mask it were, was laid aside for a moment—such airy nothings as these formed the evidence, such as it was. Lord Hythe had too much good sense and feeling to condemn his cousin on such grounds; but he doubted, doubted and watched. He was not in love with her; he had never been in love with her. But St Anthony's

self would have been unable always to resist the fascinations of that elfin beauty; and the member for Starvington prudently kept as far as possible beyond the vortex of the whirlpool. He allowed his mother and sisters to believe that he regretted his rejection, and that he would willingly renew his suit. He said to himself that this tacit admission of his being still a petitioner for the hand of his fair cousin was merely a harmless means of obtaining that desideratum of the male sex, 'a quiet life.' But the human heart is wonderfully elastic, very complicated, very full of mysteries. Perhaps this was not all. Perhaps he hoped, hoped that Lady Flavia was really the angel of goodness and truth that his family—doubtless a little biassed by the not unnatural desire to keep a handsome fortune in the Clare family—believed her to be. Possibly, he trusted that the enigma would be happily solved, and that Lady Flavia would come forth from the trial candid and blameless, an innocent snow-white dove.

But on that very day he had seen—what? A stealthy figure gliding through the snow-storm, past the screening shrubs, over the lawn, and creeping like a thief into the mansion of her fathers—a cloud of ebony curls falling from beneath the hood of a muffling gray cloak, and beneath the hood a face haggard and pale with emotion, but defiant still. The moment when Lord Hythe, himself unseen, had marked the approaching figure, had been one when Lady Flavia had thought herself beyond reach of scrutiny. As the knights of old, weary and gasping with battle-toil, put up their barred visors to breathe more freely, so she had then laid aside the wreathed smiles that had been so effective in disarming the possible suspicions of Mr Hart. She looked ill, tired, white, and desperate, as she shook her cloak to clear it of the clinging snow.

And there she was, rustling and flashing in her blue silk, and Honiton lace, and golden ornaments, with her hair about her shoulders as no one else but this strange girl could wear it, for what in others was slovenly, in her was but natural and graceful. There she was, with a bright colour in her dainty cheek, a bright radiance in her pure blue eyes, merry, happy, prattling out a plausible excuse for her short absence, laughing, singing, moving about the room with her customary careless grace, but ever returning to her favourite seat on the silken footstool beside Leo. There she was, among her unsuspecting relatives, an incarnate Lie.

What strong motive could have driven this high-born, carefully-reared girl to go abroad, secretly, on such a day, braving the rough weather, perhaps rejoicing in it, as affording the means of escaping notice? What, indeed? But of one thing Lord Hythe was sure—the errand had been neither a pleasant nor a successful one. The pale face that he had seen had been that of one who bears up doggedly against defeat, but is well-nigh hopeless of victory. This was no mere youthful caprice. There was a deep, stern purpose written in the face that Lord Hythe had seen from the window; and there was the face before him, lovely, bright, full of mirth and thoughtless innocence, the face of one to whom life was one long holiday of harmless enjoyment. Lady Flavia was pleasant to look upon; but Lord Hythe shuddered, he hardly knew why, as he watched her over the top of the album,

and his eye avoided hers as if she had been a basilisk indeed, and her gaze could strike him dead. And thus in family convalesce the short November day came to a close at last.

CHAPTER XXIV.—PREPARING FOR THE CAMPAIGN.

In that very drawing-room of the Minden Street lodging-house, in the parish of St James, and county of Middlesex, where the curtain first rose upon the Fords, father and daughter, the curtain rises again. Amy Ford, and her cousin, Charles Ford, of the Temple, are sitting side by side on the old-fashioned scroll-sofa, as happy and fond a young couple of engaged lovers as any in London. They have had a hearty quarrel down there in Slochester, and have made it up, and are better friends than before. In their case, as in myriads of other cases, the truth of the old Roman playwright's maxim has been made manifest, and the quarrel of the lovers has proved itself the renewal of love. Charles had been jealous of that mysterious stranger who had gone so suddenly to France; had been angry at the secret that was kept from him by both uncle and cousin; had conceived himself injured by Amy's lack of confidence, and had behaved petulantly, irritably, and altogether unreasonably, as jealous men will do. Amy had resented this injustice; there had been a grand dispute; Charles, always impetuous, was preparing to take himself and his portmanteau back to London, and there seemed every prospect that the two young folks would be rendered utterly miserable, when the colonel intervened. Charles was taken into counsel. The mystery was cleared up. Avowals and confessions of a mutual attachment followed the proclamation of peace, and it was satisfactorily settled that Charles Ford should marry his cousin Amy, with the full consent of all parties. But not yet. There was a duty to be first discharged, a task to be first carried out.

Amy was firm in her resolution to leave nothing untried for the discovery of her unhappy friend, that Flavia Clare whom she had known and loved at the convent of our Lady of Carmel. The colonel, partly to gratify his daughter's wish, and partly because his honest nature revolted against the spectacle of triumphant iniquity, had pledged his word that he would not desist from the search until some satisfactory intelligence should be obtained with regard to the actual facts of the case; and now Charles Ford, who had at first been incredulous, even more so than the colonel, was almost as eager as Amy herself in the good cause.

It was to this end that the Fords, cutting short their visit, much to the chagrin of the worthy vicar and his wife, had returned to London, and since their return they had not been idle. The colonel had consulted his solicitors without much immediate benefit. The Southampton Row firm of steady-going old lawyers had listened to him certainly, but then they would have listened just as patiently to a chapter from the *Arabian Nights*, or a fragment of *Ossian*, had so esteemed a client as Colonel Ford chosen to favour them with a recitation; and they urbanely gave him to understand that the affair, in its present stage, was not one which a respectable firm of family solicitors could well take up. They were willing to meet Colonel Ford's views, of course, and to assist him in every way compatible with a due regard for their own

repute in the eyes of the profession. Had the case been one in which the Court of Queen's Bench could have been moved, or the Chancellor prayed, for a writ or an injunction, that would have made a difference. But Old Bailey business was an incubus on the spirits of the quiet scribes, and the Central Criminal Court was anathema maranatha.

'Besides, my very dear sir,' said old Mr Pounce, the senior partner, and moneyed man of the firm, 'I tell you fairly that to act in this affair would be to pick your pocket of the costs of the transaction. The story—excuse me—sounds like a leaf out of that French fellow's book—*Monte Christo* was the name of it, that my girls would insist on my skinning over. Miss Ford, most amiable young lady, I'm sure, has no doubt allowed her kind feelings and excited imagination to run away with her—indeed, that must be so. Dear me, such things don't happen, can't happen, in these matter-of-fact days that we live in. No magistrate would act, no judge would listen to such unsupported statements, I do assure you, my very dear sir.'

Charles Ford, on the other hand, had consulted a cynical old Q.C., and bencher of Gray's Inn, on whose discretion he knew that he could rely. This old gentleman had been a champion at assizes for many years in the grim old hanging-days, and had the names of the harsh old hanging-judges always on his lips. He smiled sourly when he heard the bald imperfect story, which was all that his young friend had to tell, and took a noisy pinch of snuff as he thought it over. His judgment was different from that of the Southampton Row men.

'Now, Ford,' he said—'mind me, as the jargon goes, this is without prejudice. The farrago of nonsense you have been telling me, my lad, has not, legally, a leg to stand upon. No evidence. But I suspect there's something in it. I'm not one of those who think a thing's false unless it's proved by testimony as clear as the noonday. I've got off too many gallows-birds, I'm afraid, to trust to fair seeming. Still, you can't go into court on such proofs as those. Go to Scotland Yard; spend your money freely, and the detectives will ferret out the truth, if there be such a thing at the bottom of the bag.'

Colonel Ford had acted on this advice. He had visited Scotland Yard; he had been absent for hours, and now his heavy step was heard without on the landing-place, and his hand was on the lock of the drawing-room door, and in he came.

'What have you to tell us, papa?' asked Amy. Colonel Ford's news was soon imparted. He had seen the commissioner, had asked for and obtained the services of a detective officer, and that person was soon to present himself in Minden Street.

'The commissioner regretted,' added the colonel, 'that the member of the force who was most usually employed in affairs of this sort on the continent, was engaged elsewhere. However, he said that Sergeant Skinner had been repeatedly employed abroad, and— But here he comes to speak for himself.'

And at that moment a single knock, modest but not timorous, resounded on the street-door, and in a minute or two the policeman was introduced.

'Take a chair, Sergeant Skinner; we have a long conversation before us,' said Colonel Ford. The detective took a chair, and sat slowly smoothing down the nap of his hard hat. He was in

plain clothes, of course. His appearance rather disappointed both Charles and Amy, who had formed a high estimate of the extraordinary intelligence of detectives. They had expected a prodigy of astuteness, Mephistopheles attached to the British police, Asmodeus in constable's clothes, and with a crown-headed staff in his pocket. What they saw was a stout dark man, middle-aged, of middle height, middling in all respects. Sergeant Skinner had a fat good-humoured face, sleek hair that was flecked with gray, rather jovial black eyes, a firm mouth, and a square lower jaw. He shaved himself very closely. He wore a well-brushed suit of black, and might have passed for a decent tradesman of moderate means, or a steady artisan, or the captain of a river steam-boat, or even a city missionary. He was very quiet, respectful, and unobtrusive in manner.

The colonel was not disappointed. He knew that the cleverest men are not always those who make a parade of their cleverness. There was something soldierly, serviceable, and self-collected about the policeman that pleased the old warrior well. Colonel Ford, as succinctly as possible, told what it was necessary for their new ally to know. Sergeant Skinner listened with much attention, and then asked Amy a few questions in a quiet way that seemed part and parcel of himself. When he heard the name of Royston as that of the gentleman who had accompanied Lady Flavia's hurried homeward journey from France, he smiled.

'Mr Brand Royston, was it, miss—a large, big man, getting on in years, with a particularly loud voice?' asked the sergeant.

Amy made answer that she had never seen Mr Royston, but she believed from her schoolfellow's account that the description was a tolerably accurate one.

'You know him?' asked the colonel.

Sergeant Skinner continued to smooth down the rebellious nap of his hat as he replied: 'In a sort of way, sir, I do. I've seen him, often, when I was a youngster, and new in the force; and I've heard a deal about him—a deal.'

'Not much to his credit, I suspect?' said Colonel Ford.

The detective's thick forefinger moved a little faster round the hard hat. 'Well, hardly,' he answered. 'But bless you, there are those that think all's fair game on the turf, where Greek meets Greek, as they say. I've heard ugly stories of Mr Royston, but not worse than of others that walk Pall Mall yet. He was a deep chap, but too rash to keep what he made. A violent gentleman—not a bit like swells are now. I saw some skittle-sharpers once—that didn't know their bird—try to hustle him on the course, one Derby Day. They found out their mistake, they did. It was just as safe to take a mad bull by the horns as to meddle with Rattling Brand Royston. He gave 'em a lesson that day.' And the detective chuckled with quiet enjoyment of the recollection. At the sound of Rattling Brand's sobriquet, now heard for the first time, Charles Ford looked up. He was a reader of the *Sporting Magazine* and other works dear to the country-bred youth of Britain; and the name of Brand Royston had come down to him as that of one of the giants of that far-off time when Mr Osbaldiston rode the forty-four mile heats without pausing, except to change a tired horse for a

fresh one; and when Assheton Smith computed his falls at a hundred a season.

'Brand Royston?' he said; 'old Rattling Brand Royston of Royston Hall, is he our antagonist? To me he seems like Ajax in top-boots, or Agamemnon in a racing jacket. I never thought of measuring myself with an old paladin of that sort, who seemed to have lived as long ago as Brummel did. Royston of Royston.'

And the young man thought of the pages upon pages of engrossing literature which he had imbibed, and of which Brand Royston had furnished the subject-matter. The Duke of York had won a heavy bet on Brand's horse Daredevil, ridden by its owner, in the Coventry steeple-chase, and had slept two nights at Royston Hall. The king—it was George the Magnificent—had told Mr Royston, after uncounted bottles of claret had been imbibed, at the Brighton Pavilion, that his Sacred Majesty rather liked him, as a thorough-going ruffian, whose talk did not always smell of the stables, as that of other sporting-men did. Nimrod had spoken warmly of Brand; so had Mr Radcliffe. His prowess, his liberality and openness of hand, his success in wild pranks and fistic encounters, were plentifully embalmed in print. Few men had taken such leaps; scarcely any had gone through such broils and battles; Brand never stood upon his rank; he faced wrestlers, pugilists, single-stick players at their own weapons, and came off the victor. Charles Ford had a pretty distinct remembrance of his encounter with the Brummagem Bully, a heavy-weight bruiser, the terror of the Black Country, whom his admirers had set upon Brand at some country race-meeting, to be 'polished off' in eighteen rounds. Also of Manifold, that ultra-vicious horse of Lord Bamford's, the kicking buck-jumper that had smashed the collar-bones of so many grooms, and of which the rough-riders stood in awe. His lordship had said: 'Ride him as far as that white gate, Royston, and he's yours, and I wish you joy of him. If you can't ride him, I must have him shot.'

But Brand Royston had tamed the plunging furious brute, and had won the Welter Stakes with him at the next meeting on the Curragh.

Something of this Charles related. It was all new to the colonel, whose only notions of sport had reference to the slaughter of great game, the Burra Shikar of the Indian jungle; racing for the spear of honour in a Bombay boar-hunt, or a match between two wiry Arabs on an Indian Maidan.

But Sergeant Skinner nodded his head in token of assent. 'Quite right, sir,' he said; 'and I believe the gentleman did everything you mention, and more too. He was the talk of the town, I know, that time when he broke out of the round-house, after the row at Crockford's. But often when I was a lad on duty, and I've seen him among the tip-tops, bawling out the odds, and shaking the elbow at the Epsom booths, I've thought to myself he would end at Bow Street. He was the man to stick at nothing. I wouldn't have been a life in his way, I know, if he saw a hatful of money beyond, and nothing but me betwixt him and it.'

The cool reticent man had warned somewhat in saying this, his black eyes twinkled, and his determined face looked more intelligent than before. But Amy grew pale, for his words had evoked a new fear. She had thought of her friend as in captivity, but the policeman's words had

aroused an apprehension that had never before darkened her mind. Hastily, almost imploringly she spoke: 'You surely do not think the lady I have told you of—my dear, dear friend—a girl of only eighteen years old—you do not think he would—would'—And Amy broke off, sobbing.

The detective left off rubbing his hat. 'No, miss, I don't. My opinion is that Mr Royston is a hard man, but I don't believe he would do what you mean. I do not think he would harm a woman. My own idea is that your friend would be safe with him, so far as her life went; but as for locking her up in an asylum, if he had a chance, and could make money by it, he'd do it, as sure as I am sitting here.'

Soon after this, the conference came to an end. Sergeant Skinner, from first to last, had expressed no surprise; and this was a notable feature in the case. He had known, he said, 'starts' of as singular a nature, but they did not always work out as well as could be desired. He declined to give any opinion as to the chance of success. The evidence, he pointed out, was scanty. Possession represented nine points of the law. It was a comfort in some respects that the search, in the first instance, was to be conducted in France. The French had ways of their own, and would rake up evidence where our own more scrupulous system broke down. But Sergeant Skinner especially begged to advise that Colonel Ford should provide himself with formal papers, and if possible with introductions to some one in the Ministry of the Interior or Foreign Affairs, as otherwise it would be difficult to induce the local authorities to take up a case on such slight grounds.

Then Sergeant Skinner, promising to call next day, took his leave; and Amy, who had not yet recovered her fright about her poor friend's safety, slipped quietly up to her own room. Colonel Ford stood before the fire, rubbing his hands together with a cheerfulness that surprised his nephew. 'I rather like this, Charley,' said the old soldier; 'I begin to warm to my work, for its own sake, I am afraid. You see I was one of the commissioners for putting down Thuggee, during which time I heard stories that I think would astonish even our cool friend from Scotland Yard; and I begin to feel as if the work were yet unfinished, and I had Thugs—English Thugs, but not the less dangerous—to deal with still.'

SOME ACCOUNT OF AN UNDISCOVERED ISLAND.

I was not brought up to the sea, and yet I have had adventures such as seldom happen even to a sailor, and which could not be met with by any one who had never 'gone down to the sea in ships.' Until I was twenty-two years of age, I lived in Cornwall, and had worked in the copper mines. I was unmarried, and had no ties to keep me in England; so, when men were wanted to go to the South American mines, I went among the number of twenty who were taken out by the gentleman who engaged us. We had signed papers for seven years from the date of our sailing from England; but it was far more than seven years before I again landed there—one of only three survivors of all that ship-load of souls which sailed from

Falmouth in youth and health, with hopes destined never to be fulfilled.

We met with a good deal of bad weather before reaching the hot latitudes, and were becalmed for a week or more at a time, on several occasions, when about ten degrees south of the line. During the whole of the voyage, I had learned as much as I could of navigation and seamanship, for the second-mate was a relation of the husband of my only sister, and so took pleasure in assisting me; and having been kept at a good day-school by my father, and also instructed by him in figures, and in the surveying and planning of mines, it was the more easy to me to take up this new study, and to understand the calculations necessary to determine the ship's place from observations of the heavenly bodies. What afterwards happened, shewed me how desirable it is to obtain knowledge of any sort, when placed so as properly to acquire it, for it is impossible to say when or how such knowledge may be of value.

For several weeks, calms and baffling winds had prevented the ship from making her course properly, and had driven her considerably out of it, and into a part of the ocean never frequented by vessels unless carried there by irregular causes. It was here that a great storm came on us, such as none on board had ever before encountered; and the vessel, which was old, began to shew signs of distress, and laboured so heavily that the masts had to be cut away: yet in spite of all that could be done, the gale continued so long and with such force, that it was impossible for the hulk, for such she could only then be called, to live much longer. Instead, however, of diminishing, the gale on the third day increased to a hurricane, and the captain told us that he had no hope of saving the ship, and believed that in such a sea not a soul on board could live through the night. He directed us all to lash ourselves to spars, in preparation for the worst, and to commend our souls to God, and await His pleasure. This we did; and all on board waited as resignedly as they might for the moment when the sea should swallow up their ship. At about half-past 6 P.M., a great sea swept over us, carrying some away; and soon after, the ship evidently settling down, the captain told those who remained to fling themselves overboard, so as to escape the suction when she foundered. All obeyed at once, he alone remaining till just before she went down, when he also dropped into the sea from the taffrail. And thus we were all tossing about on the wild ocean, with no hope save that which, I believe, never forsakes a man in his right mind, and which is best expressed in that old saying: 'While there is life there is hope.'

Before the night was over, we knew that some of our number would never see the sun rise again; but providentially, with the great parting gust of the storm, its force had spent itself, and the sea went down rapidly. We had sent the boats clear of the ship before she went down—indeed, this was the last thing done as we abandoned her—for although they could not live in the sea as it was then, we hoped to fall in with them, and bale them out, should they not be stove in, could we pick them up when the sea went down. When the morning came, therefore, five of us, who were near together,

kept on the watch, and before noon espied what we thought was the keel of one of the boats about two cable-lengths from us. The waves had by this time subsided; so the second-mate, who was a good swimmer, volunteered to go to her, which he did in safety, and found it to be the long-boat, and apparently unhurt. He got her up to us, but for a long time we failed to turn her over. At last, however, we succeeded; and the sea having become comparatively smooth towards evening, we managed to clear her of water by floating spars on each side of her, lashed together under her, so as to lift the gunwale above water. The oars had not worked out of the lashings with which they were fastened to the thwarts, and two kegs of water also remained where they were secured. The provision in the lockers was safe, and not so much damaged as to be useless. A little food put new life into us. We required no water, as from having been so many hours in the water, we were not thirsty, for in such case the body absorbs sufficient moisture through the pores of the skin. The night was literally 'a calm after a storm;' and although so wet, we slept soundly for the first time for two days. When we awoke in the morning, we were so much refreshed that we began to think of our companions, who might still be picked up, and spent the day in rowing about, finding several pieces of wreck, to one of which the captain's body was attached. We cut the ropes, and let the body sink, having first cut off some of his hair, and taken his watch and some papers from his pockets, as relics to be given to his widow and family, should we be spared ever to see England again, and be able to communicate with them. A small silver coin with a hole in it, which was found in one of his pockets, and which his widow begged me to keep, I have worn ever since, and is hanging to my watch-chain as I write this account, seated in a snug chamber in Old England, which for years I never expected to revisit.

There was nothing remarkable in what happened to us while thus exposed in our small boat. The sufferings consequent on short rations and exposure have frequently been related. All the horrors of the situation were gone through by us, even to the wish not to cast to the fishes the dead bodies of two of our number, who sank exhausted by their privations, and, I believe, partly from want of that vivifying power which is perhaps best named as 'pluck.' Indeed, but for this mixture of hope and determination to live, the remaining three would have given way also, for there was no apparent difference between the bodily state of any of us, however much the mental powers might have varied. We also felt weak unto death, and ere long sunk into a state of sleep and faintness, in which it seemed pleasant to lie, rocked by the waves, with no strength to think, and with a calm feeling of gliding away from the body, and being a living soul, with no earthly cares. Then came a time, how long I know not, during which I was unconscious, and, indeed, may be said to have been dead, for dead I was, had not Providence conducted us to that assistance which alone could have recalled us from the fast-closing tomb. In these cases of extreme exhaustion, it is singular what curious matters press on the attention; I distinctly recollect that my last feeling was, that I was in my hammock, and noticed with serene delight that a crack in the beam overhead

had been filled up, so that I had no fear of the dropping of any cockroach on my face from it—an occurrence which frequently happened when really on board the vessel.

At this point of my narrative, it will be perhaps clearer, and save some space, to give an extract from the diary of one of our preservers. It is as follows: 'To-day, as John and Marcus were fishing in the canoe, about a mile and a half at sea to windward of the island, they saw what they supposed to be a piece of wreck at some distance, and on approaching, discovered it to be a boat. On reaching it, they were surprised and shocked to see what they believed to be the corpses of three men in it. They immediately made fast a rope, and towed them to land, intending to give the bodies Christian burial. The sight of the returning canoe, with the other object in tow, of course drew all of us to the beach, and great was our sorrow at the sight of the three dead men, for dead we certainly thought them. The doctor, however, on examination, pronounced it possible that life might not be extinct, and at once proceeded with all the necessary means for resuscitation. He was successful with all of them, and they now lie brought back to life, but unable to speak or move. In a few days we shall hope to hear their story, and also some news from the distant world, from which we have so long been shut out; for it is now between four and five years since we last had tidings from the busy scenes of life, by the lips of the wrecked sailor who reached us then. This addition to our inhabitants will make us in all number thirty-seven souls, being seventeen men, nine women, and eleven children.'

This extract will sufficiently explain our rescue. In a few days we were able to sit up and talk, and very shortly got about again, and began to be of use in the community. As soon as we were strong enough to take part in it, a thanksgiving service was held by all of us—by them for being the means through which the Almighty had pleased to save our lives; and by us for His merciful guidance of our frail bark back to His appointed place; and we sung the 107th Psalm, from the 23d to the 31st verse; for we, indeed, were they who were 'glad because they be quiet; so he bringeth them unto their desired haven.'

It will be necessary here to give a short account of those who lived upon this island, and of how they were cast there. About eight years before we were brought on shore there, an emigrant ship had been wrecked and abandoned by the crew, and the strongest and worst of the passengers, who took all the boats, and met the reward of their selfishness by a speedy death. The captain had been washed overboard previously, or he would have prevented such a villainous proceeding. These men refused to take his wife and child on board, so as to give them, as was thought at the time, the only chance of safety. However, it was ruled by a gracious Providence that the unmerciful obtained no mercy, and the few whom they had left, as they thought, to a certain death, were the only ones who were saved. The vessel was driven into a land-locked bay in an island, where it ran ashore on a sandy beach overhung by trees, by which those who remained were able to reach the land. The sheltered position of the ship prevented the waves from entirely breaking it up, so that nearly the whole of the stores and cargo were eventually

recovered, and added materially to the ease and comfort of those who were saved. These were thirteen men, the wives of three of whom were saved with them, and two children, girls of twelve and fifteen years old; the captain's widow and her son, a boy of three years old, and the widow of one of the emigrants who was drowned. The remaining four of the women were unmarried, and were on their way to join relatives. They were all young—that is, under twenty-five—and two of them had been brought up as governesses, being of respectable families, but finding the profession unpleasant, were on their way to a colony, intending, sensibly, to go into domestic service. The men who were saved were the doctor of the ship and a young clergyman, and his wife, who thought it better to emigrate than starve on the pittance of a curate, for he had no interest to push him on in the church. This couple had been married just before they started. There was a young gentleman, by birth and education, who was going out as clerk in a commercial house; and the ten other men were farmers and artisans. These were all who were cast ashore at that time; but some years afterwards a solitary sailor was picked up at sea, as we were, the only life saved out of the crew of a ship that foundered, having sprung a leak. A raft was at once constructed, but all were washed from it except the one man who found refuge on the island. These, up to the time of our coming, were the only arrivals from other shores. The rest of the population of this little realm consisted of the natives, being the children born there, amounting to eight. The doctor and the clerk had each married one of the governesses; and the other maidens and widows, including the captain's, had also found husbands; so that there was no likelihood of the island again becoming lifeless, except by the escape of all the inhabitants, should some happy fortune bring rescue to them.

That they had never attempted this, was caused by the absence of any seaman among those who first landed; so that it was not until the sailor joined them, some years afterwards, that there was any one among them skilled in seafaring matters. The first arrivals had constructed canoes sufficient for the purposes of fishing and transport along the shores, but had never attempted the building of a vessel of a size large enough to enable them to leave the island in search of passing ships, or lands from whence they might again reach their own country. The timber of the old wreck was all used at once for building houses, and no other bark had been driven on their shores since. There was, however, at the time we were cast ashore, a large wreck gradually being raised up out of the sea by the growth of the coral-reef which nearly surrounded the island. It had soon been discovered by the first-comers, the stumps of the masts rising above the surface of the water, shewing where it lay. It had now been raised so much, that the cabins were accessible, and a quantity of preserved provisions had been obtained. The timber had been so long under water, that it was quite water-logged, and unfit for most purposes; it seemed impossible, at least, to make it available for the construction of another vessel. At anyrate, it would be some years before the whole of the hull would be obtained by us, and until then we must wait, and endeavour to devise other means of action.

To recount all the contrivances of the islanders to compensate for the want of the utensils and requirements of civilised life, would only be repeating much which may be found in other narratives of shipwrecked people. The things in which our case differed from others are those which were consequent, not on our misfortune, but on the new and singular forms of nature among which we were thrown. The doctor, whose education made him an authority, had never heard of many of the trees, plants, and fruits which were here found. They may, of course, exist in other parts of the world, but not in any at present discovered.

It was, of course, some time before they thoroughly understood what fruits and plants they might eat with safety; but long before we arrived among them, they had settled down into a life of peace and plenty, so that we were most fortunate in being cast among them instead of on some lonely and desolate shore. As soon as I recovered sufficiently to inquire into where I was, I began to wonder at the savoury soups and stews which were set before me, particularly as I was told there were no animals on the island. Birds there were in abundance, both sea and land, but no four-footed beast, and yet it appeared to me that I was daily fed with rich and succulent animal food. I soon found that what I mistook for meat, was really only slices of a fungoid plant, growing to a great size, and having a light yellow rind or skin, within which was a rich brownish-red core full of juice. Slices of this really looked so like the lean of meat with an edging of fat, that any one would have been deceived by them, and in taste also there was little difference. Every one knows how *meaty* our English mushrooms taste; and it was remembering this, and having his own ideas of the use to which many fungi could be put, if found edible, that the doctor made his experiments, and with such success that they never wanted for this wonderful substitute for animal food. Potatoes they had grown from some which were in their ship; and as there were some consignments of garden-seeds on board, they soon had an abundant supply of all the vegetables, and many of the fruits to which they were accustomed in England.

The doctor found on the island the plant from which the Africans manufacture the 'shea butter,' which will keep untainted for years, and which Mungo Park preferred, when fresh, to butter from the cow. This gave us a most valuable aid to all sorts of cookery. Wheat was grown in more than sufficient quantity to supply all our wants. Before their stock of tea was exhausted, there was discovered a plant bearing an abundant supply of gourd-shaped fruit, of a dark-brown colour when ripe, and containing an astringent fluid which could very well be mistaken for the extract of tea; at anyrate, it formed an admirable substitute for it; and with their milk (the white juice of a palm-like plant) and sugar (also obtained from a tree), I did not discover that I was drinking anything but the infusion of the Chinese leaf. Their cups were apparently of the finest white china, but of peculiar shape, having a rising in the centre like that at the bottom of a champagne bottle, or like that in the old-fashioned moulds for plum-puddings, making in them a deep hole, to be filled with brandy. These cups were formed of the calyx of a flower, which was steeped for several days in a well of

water, which had the power of so impregnating them with silex, that they came out hard and ringing like china itself. They were generally about the size of English breakfast-cups, but some were smaller.

The same plant bore a fruit the size of a cocoa-nut, but with a white, porous, and hairy skin about half an inch thick; these filled themselves with moisture, containing about a pint each. During the day, the evaporation through the skin kept the contents deliciously cool, and at night it refilled itself from the dew. This liquid was sweet, and slightly acid, and most refreshing. The skin which gave it this taste made a delicious sort of marmalade, something like that made of lemons. Fish there was in abundance; and altogether, we were excellently well provisioned. As for clothes, these were equally well obtained from a tough fibrous lichen, which grew thickly over the rocks, and which produced large sheets of a sort of cloth of coarse texture, which sufficiently met all our requirements for the stouter articles; for thinner ones, there was a light flaxen-looking material made of a fine film from the under-sides of the leaf of a tree which grew extensively on the island. From these fibres also were made ropes, pails for the canoes, and lines for fishing.

The mode in which nearly all the forms of vegetation were made useful was wonderful; but certainly the extraordinary character of the productions was the great cause of this, and not our own ingenuity. Nearly all the plants were found to be of some use; and many of them of such curious forms, that they at once suggested the manufactured article they imitated. One of the most singular in appearance was a tree which we named the 'rung tree,' from its bearing what were identical in shape to the rungs of a ladder. Its growth was exactly similar to our British thistle, of which it was a gigantic copy. The flower was of the same shape as the thistle-flower, but grew to about two feet or more in length. From around the calyx, instead of the down of the thistle, arose a coronet of stalks, of the exact shape of the rungs of a ladder, slightly spreading outwards, and at the end of each, bearing a small crimson flower of six ray-like narrow petals, which issued from a purple ball, like the yellow centre of the daisy. These flowers, when dried, formed of themselves admirable stools and chairs; and by weaving twigs between the 'rungs,' made convenient, though heavy baskets. The 'rungs' themselves, when cut in two through the thickest part, were very useful as 'tree-nails' in forming our wooden buildings; and by training the young flower to grow them radiatingly, we were able to obtain nature-formed wheels, to which we easily put tires; and thus we were able to construct carriages to facilitate our movements with timber or stores. Except these 'tree-nails,' nothing had, for a long time, been discovered which could be turned to use in constructing a vessel, and the fastenings were valueless until there were timber and planks to fasten. The other and older wreck, which has been mentioned as gradually rising from the water by the upheaval of the reef surrounding the island, at first gave them hopes of obtaining timber, out of which the seaman who had been providentially sent to them could construct a vessel, for he was a ship-carpenter by trade; but he found the wood completely water-logged and unfit for use. That

hope, therefore, was abandoned, and his attention was given to discovering trees on the island fit for his purpose, and to contriving means of cutting them into planks. During these investigations, accident, as it often does, led to a great discovery, which eventually removed his difficulties, and resulted in the construction of the vessel in which we made our escape, and which, as a curiosity, the public may soon look for on the lakes in the gardens of the Sydenham Crystal Palace. He had just commenced his experiments when we were thrown ashore, and the addition of these men who understood ships, proved of great assistance in the future proceedings. The discovery was this: there were vast groves of a sort of cacti, throwing out very long thick solid leaves, which had been found very useful in making roofs over the houses. Some of these leaves had been cut and sliced, in order to determine if they were likely to prove of sufficient substance and strength to be of assistance in the boat-building. The results had been unsatisfactory, and researches were made in other directions. One day, however, in revisiting these plants, two long leaves, which had been partially cut down in the experiments on them, were observed to be joined at the edges, so as to form one broad leaf with two points. This at once attracted attention, and it was found that the edges of the leaves having been cut off in the investigations into their character, had happened to be brought into close contact, and had actually grown together, as solidly as if they had always been one! Indeed, had it not been perfectly well known that it was not so, it would have been impossible to believe that they had not always grown as they then appeared. This circumstance at once originated the idea of getting a number of leaves to grow into a large slab; and after many experiments, the plan extended into actually so arranging a series of leaves and plants as to cause them to grow into a canoe-shaped boat, which only required strengthening by a gunwale and a few ribs to form an admirable sea-worthy boat, when coated with the gum of a tree found on the island, which formed a sort of resinous varnish, which was perfectly water-proof. Of course, the trials and failures were many before even this result was arrived at; and they took a long time, as nature had to be waited on, to do the principal work. However, at length it was determined to commence the construction of a vessel large enough to carry every one away from the island, in the hope of reaching the nearest land, or meeting some ship. For this purpose, a number of the plants were selected, and carefully moved and arranged so as to be in such positions that their leaves could be joined to each other, and trained in a given direction by framework so placed as to give them the desired form. The leaves were first grown together pointing forwards, in a diagonal direction towards the bows, and then crossed by another growth in the opposite direction, or pointing towards the stern. This mode, I think, was said to be on what is called Sepping's Principle in the navy, and certainly succeeded with us. During the growth, the leaves were constantly attended to, and carefully cut, so as to allow them to grow together, and the surfaces of the diagonal cross-leaves were so treated as to make them grow into one thick mass, the fibres of which crossed each other, and gave great strength.

We allowed the vessel to grow to a thickness of

three inches, as, although this would have been too much in ordinary timber, it was thought best to be on the safe side with this new material. This proceeding took several years, and was our principal work of interest. Meanwhile, the preparation of other necessities was proceeded with. The deck was grown in the same way as the rest of the hull; but for the gunwale, ribs, and the necessarily stouter timbers, we had to look elsewhere. Timber for these purposes was ere long discovered. It will be remembered that an upheaval of one side of the island has been mentioned. On the opposite coast, there had been a subsidence, not in our time, at least to any great extent; but at one period the motion must have been severe and long continued, for a detached portion of the island had seemingly fallen away, rending the rocks asunder, which here formed a deep channel, through which, at high-water, the waves passed. On this island were a number of trees of the straight palm-like sort characteristic of the locality. These, however, were not straight, for the sinking motion gradually proceeding as the trees grew, their natural tendency to stand straight upwards while the ground was canting over in which they were rooted, gave them a regular curve, and thus we were provided with ribs for our vessel, bent to the desired form by nature herself. These we made use of, and well coated the whole vessel with the native varnish; formed the sails and cordage of the productions of the place (for we feared to trust to any old rope still left from the ships which had been wrecked), and thus the ship was entirely a natural production of the island, and, moreover, constructed principally by nature herself. It may be imagined how joyous we were when she was launched, and yet how dashed with fear our rejoicings were, for we as yet were far from sure of success. We carefully tried the powers of the *Deliverance*, for so we called her, by cruises in the neighbourhood of the island, and even took her out in very rough weather, to satisfy ourselves of her being seaworthy. After a winter spent in these trials, she was pronounced safe by the mariners, and we prepared to leave our new home in quest of our old one.

I have mentioned no names, as I am not at liberty to do so, and it is quite unnecessary for the proper relation of my narrative. The mate of our old ship was unanimously elected our captain; the ship-carpenter was made mate; and as most of the rest, even of the 'land-lubbers,' had, by the constant cruising about the island, become tolerable sailors, we were well off for a crew, and the women embarked without fear. We had the compass from the wreck, charts and instruments, so that we were certain to reach land, should we not, unfortunately, meet with any severe gale. We found our *Deliverance* a very good sea-boat; and after being at sea ten days, intercepted a homeward-bound merchantman of such a size that she took our boat on board with us, at our particular request, and landed us all safe and well in London.

There is nothing more to say, but that an expedition is being arranged by the Botanical Society, of which our doctor will be the head, which will proceed to our island, and bring specimens of the peculiar plants and trees, to be placed in the gardens at Kew. It is principally for these (though not yet generally known) that the new constructions are erecting near the Chinese pagoda. There the

public will soon be able to see for themselves the curious productions of our island; and I, for my part, shall prefer seeing them at Kew, to forming any further acquaintance with them in their native locality.

THE MONTH:

SCIENCE AND ARTS.

OUR learned and scientific societies are now in the height of activity, helping on science by the reading of very dry papers, and by discussions which are often lively enough. Dr Bence Jones has communicated a paper to the Royal Society shewing that, by the external application of cold, diabetes may be produced in animals, which may perhaps prove suggestive to medical practitioners, especially as it contains some remarks on the combustion of food within the body, a question still very imperfectly understood. Dr Bence Jones observes: 'Notwithstanding all that Liebig has done, the knowledge of the phenomena of oxidation in the body is only at its commencement. Take, for example, a grain of starch. It enters into the body, becomes sugar, is acted on by oxygen, and ultimately passes out as carbonic acid and water. This is the final result of perfect combustion. But what are the different stages through which the starch passes? what happens if the oxidation stops at any of these stages? that is, when imperfect combustion occurs.' These are important queries, and there are thousands of patients whose health depends more or less on the answers that may be given.

There are three ways in which the combustion may be made imperfect: by insufficient oxygen; by too much fuel (that is, food); and by reducing the temperature of the body so low that its chemical action is checked. The result of imperfect combustion is, that oxalic and other vegetable acids are formed within the body, and in the worst cases, sugar; and this formation of sugar is a disease that oftentimes proves fatal.

By experiments of another kind, Dr Bence Jones has endeavoured to ascertain the time required for certain crystallised substances to reach the textures of the body after being taken into the stomach. In other words: If a dose of medicine be given, what becomes of it, and does it arrive quickly or slowly at the parts for which it is intended? It is obvious, that if these questions could be accurately determined, medical men would have a better knowledge than at present of the action and progress, so to speak, of medicine within the body. Substances when taken into the stomach pass into the blood, which may be supposed to distribute them to all parts of the body. If, in ordinary circumstances, no trace of a particular substance can be found in a body, but is found after doses of the substance have been administered, it is clear that the doses are the source from which that trace is derived.

Lithium is a substance sometimes given as medicine. Dr Bence Jones gave half a grain of chloride of lithium to a guinea-pig, on three successive days; and he found lithium in every tissue of the animal's body, even in the cartilages, the cornea, and the crystalline lens of the eye. In another experiment, the lithium was found in the eye eight hours after the dose had been administered; and in another, four hours after. In another, the lithium was found after thirty-two

minutes, in the cartilage of the hip, and in the outer part of the eye. These cases shew that chemical substances do find their way very quickly into the tissues of the body; and a similar result appears from experiments on the human subject. A patient, dying of diseased heart, took fifteen grains of nitrate of lithia thirty-six hours before death, and a similar quantity six hours before death. Lithium was afterwards found distinctly in the cartilage of one of the joints, and faintly in the eye and the blood. A like result was obtained with a patient who had taken ten grains of carbonate of lithia five and a half hours before death. And to this Dr Bence Jones adds, that he expects to find lithium in the lens of the eye after operation for cataract.

As an example of the way in which an improvement in one branch of science advances researches in another branch, we would remark here, that it was by means of spectrum analysis—that newly-discovered chemical appliance—that Dr Bence Jones arrived at his conclusions. Without the spectroscope, he would have been quite unable to detect the minute quantities of the substances for which he was in search. An instrument which has already been applied to discover physiological secrets, and to analyse the constitution of the remotest stars and nebula, has surely a future of richest promise before it.

In another paper read before the Royal Society, Mr Warren De la Rue, and Mr E. Stewart of the Kew Observatory, make known the results of their observations upon the sun, among which they attempt to answer the question, whether the photosphere of the sun is to be regarded as composed of heavy, solid, or liquid matter, or is it of the nature of gas or cloud? Their conclusion is in favour of the latter; namely, that the nature of the photosphere is that of gas or cloud; that sun-spots are phenomena existing below the level of the photosphere, and that the heat of the sun is not derived from within, but without. And as regards what they term 'the behaviour of spots,' they come to a legitimate deduction, that it also is influenced by something external, and they find a coincidence between the behaviour of the spots and the position of the planet Venus. This means that the spots diminish in size when, in their course across the sun's disc, they approach the longitude of Venus, and increase as they pass away from the neighbourhood of the planet. These are curious questions and curious results; but they admit of the inference, that physical astronomers are steadily advancing towards a true knowledge of the nature of our great central luminary.

Some remarks were made by Lord Chief Baron Pollock in his annual address to the Photographic Society, which seem to belong so naturally to the foregoing subject, that we may repeat them here with advantage. After mentioning the invisible rays known to exist at each end of the spectrum, and suggesting that, as some ears can hear shrill sounds which are not heard by others, so there may be some eyes which can see the invisible rays, his lordship spoke of the 'powerful battery of apparatus,' as he called it, 'which Mr De la Rue has brought into the field for the purpose of discovering the structure of the sun.' In ordinary circumstances, the inequalities of the solar surface are not discernible; but they can be observed to some extent during an eclipse, and are

supposed to be mountains; and here it is that photography has rendered good service to astronomy. 'Mr De la Rue has been enabled by photography to obtain pictures of that which the human eye cannot see, but which the eye of photography does see; in other words, the rays which produced no effect upon the human eye will pass through the excessive light which covers the surface of the sun, and make an impress upon a proper paper so as to give you a picture of the sun when shining in his full strength. This,' said the venerable President in conclusion, 'is one of the matters which I have been watching for and expecting; but I expect much more. I own that I look forward to the period when photography and its connection with the arts and chemistry will be the means of discovering a variety of matters which at present are either in a state of great obscurity, or else almost entirely unknown.'

In former *Months*, we have noticed the drawings of Mars, and the accompanying observations that have been published. Since then, Professor J. Phillips of Oxford has continued his investigations of the planet, and communicated the results to the Royal Society. He finds that in general features and main outlines of land and sea, Mars exhibits but little appreciable change. The colour of the larger masses of land, he says, is the same as formerly observed, and the sea is gray and shadowy, but without the very distinct greenish hue which was noticed in 1862. The masses of snow at the poles were also clearly seen, extending down to about 40 degrees of latitude, on which the professor remarks: 'Assuming this to be the geographical limit of the freezing mean winter temperature, we see at once that it differs but little from that of the earth. If the snows on the land of Mars be compared with those on the northern tracts of Asia and America, they will be found not to extend further.'

On another particular he says that the ruddy tint of the broad tracts of land so constantly observed is probably indicative of some peculiarity of substance or structure. But, on the other hand, the appearance is so similar to that of our evening clouds, that it may originate in the deep atmospheric zone which by some observers has been ascribed to Mars. This is a question on which we may expect light to be thrown by spectrum analysis; it is one also which involves considerations of climate; for if Mars be covered by a very deep atmosphere, it would be preserved thereby from great extremes of temperature. It is well known that the effect of the atmosphere on our earth is to keep it warmer and more equable in temperature than it would be without an atmosphere. So, 'on the whole, we may, perhaps, be allowed to believe,' with Professor Phillips, 'that Mars is habitable,' though it may be that overcoats are more in request there than here.

Mr G. F. Forbes, one of the cotton commissioners in the Bombay district, reports that he has constructed a cotton-press, which is much more effective and much lower in price than the presses made in England, and sent out to India. In the new machine, the pressure is communicated by a lever, not by a screw; it is not liable to get out of order, can be easily repaired, and requires not more than four men to work it. With an English-made press, six coolies can pack from eight to ten bales a day; but with Mr Forbes's press, from eighty to one hundred bales a day can be packed

by four men. With this great difference in its favour, the new press ought to progress rapidly into use in all the cotton-growing districts of India.

Some time ago, much regret was expressed that the giant trees (*Wellingtonia*) of California had been recklessly cut down. Their fall was a loss to the world. But Sir William Hooker has received a letter in which Professor Brewer, of the California State Geological Survey, reports that 'an interesting discovery has been made this year of the existence of the big trees in great abundance on the western flanks of the Sierra Nevada. They abound along a belt at 5000—7000 feet of altitude for a distance of more than twenty-five miles, sometimes in groves, at others scattered through the forest in great numbers. You can have no idea of the grandeur they impart to the scenery, where at times a hundred trees are in sight at once, over fifteen feet in diameter, their rich foliage contrasting so finely with their bright cinnamon-coloured bark. The largest I saw was 106 feet in circumference at four feet from the ground, and 276 feet high. There seems no danger of the speedy extinction of the species, as it is now known in quite a number of localities, and, contrary to the popular notion, there are immense numbers of younger trees of all sizes, from the seedling up to the largest. There has been much nonsense and error published regarding them.'

Another instance of discovery leading to discovery has just occurred in geology. It is but a few months ago that the *Eozoon Canadense* was first made known; and now it appears that fossils of this remarkable creature have been discovered in the serpentine rock of this country. The importance of this of course depends on the age of serpentine, and that is a question which geologists have not yet settled; but some of them are of opinion that the British serpentines are of the same age as the Laurentian rocks in which the Canadian *Eozoon* was found. Pending their decision of the question, keen explorers are on the search for other specimens, and we may expect that in time our museums will be enriched by examples of the Cornish and Scottish *Eozoon*, and indeed from all the districts in which serpentine occurs.

The French Association for the Advancement of Meteorology, which meets periodically at the Paris Observatory, has established prizes for the encouragement of meteorological studies; and persons of any nation may compete. They state in their programme, that 'the storms of the coasts of France come, already formed, from the Atlantic; they ask for a series of meteorological observations made as widely as possible over that great ocean, in the hope that something may be learned therefrom of the origin and nature of the storms; and for this, they offer their principal prize of four thousand francs. Another of three thousand francs is proposed for a series of the best observations made at sea, or in places little known in a meteorological point of view; and two prizes, each of five hundred francs, are for the best memoir (or essay) on the application of meteorology to agricultural questions. There will probably be no lack of competitors; for, judging from the number of weather-wise letters now written to the newspapers, there are large numbers of persons at present who regard themselves as competent meteorologists.

Another improvement has been made in the manufacture of iron, which is likely to produce results of incalculable importance: it is puddling by machinery. Puddling is a certain continual stirring about, by which cast iron is converted into wrought iron, and hitherto it has been accomplished by hand-labour. The puddlers have laughed at the notion that a machine could ever be constructed to stir a huge lump of molten iron about in a blazing furnace as thoroughly as they did it with a long iron rod, and they have been noted for turbulence and a readiness to join in a strike. But now a machine has actually been made which puddles iron in a satisfactory manner. It may be familiarly described as the bur of a gigantic coffee-mill rotating in the furnace, and dragging the pasty iron round and round, exposing all parts of it to the in-rushing stream of oxygen, until it is as effectually puddled as by the best hand-labour. It is an invention which will in some sort revolutionise the iron trade.

At a recent meeting of the Franklin Institute, Philadelphia, specimens of leather tanned by a new process were exhibited. The skins are prepared in the usual way, and are then soaked in a tanning liquid composed of a decoction of Golden Rod (*Solidago*), in which catechu, alum, nitre, and salt have been dissolved; the strength being 15 degrees of the barkometer. Calf-skins and 'kips' are tanned in from eight to fourteen days, and ox-skins in from twenty to ninety days.

A Patent Ribbon Hand Stamp was also exhibited, in which the colouring matter is supplied by a chemically-prepared silk ribbon, which never dries up, clogs, or evaporates, so that the stamp is always ready for use, and the ordinary troublesome pads and brushes can be dispensed with. As one of the minor contrivances, for frequent mechanical use, this is worth notice.

OCCASIONAL NOTE

PENMANSHIP.

A VETERAN living statesman has taken occasion, more than once, to notice publicly the rarity of good penmanship in our age, as compared with former times. It is, in our opinion, a well-founded complaint. Few gentlemen now a days write a perspicuous hand, or anything better than a scrawl. How often, when a stranger addresses you, do you find one-half of his sentences unintelligible, and his signature so utterly enigmatical, that you are forced into the impoliteness of cutting out the name and pasting it on the envelope of your answer! If you cast your eye over any extended manuscript or sheaf of letters of the early part of the last century, the writing is generally of a very different character. The writer of this note possesses a manuscript of ten volumes, written at different times between 1746 and 1773 by a clergyman, and in the whole of it he has never detected an *e* or an *l* without its loop, or an *i* without its dot; neither, in reading, was he ever at a loss about the meaning of a single sentence. We cannot say much for the handwriting of ladies of that or any earlier age, for a tolerable education for women is a matter of later date. But certainly there was a time—what may be called the era of our mothers—when feminine handwriting was both elegant and intelligible. Old ladies still, as a rule, write better than young ones.

We are not sure if Lord Palmerston has ever pointed to any cause to which this evil may be imputed. But there is one not difficult to see—the great haste with which both men and women now

write, as compared with the deliberation of former times. It is not merely that grown-up people write at a sort of gallop, thus necessarily failing to form their letters properly, but even at school the young are in a manner trained to over-rapid writing. One of the masters gives out a set of sentences or a problem composed of arithmetical figures, for the pupils to write down in their exercise-books or upon their slates, and he or she is reckoned the cleverest who can make these transcripts with the greatest speed. Thus any good the pupils get from the writing-master is undone under the practice of the other teachers. The hurrying habit acquired at school is kept up afterwards, and bad writing becomes fixed and normal.

If this mal-practice of modern education were given up, and men and women would take a little time and a little pains in using their pens, we might hope to see something like a return to the neat and perspicuous writing of the bypast age—a result surely very devoutly to be wished.

WINTER SIGNS.

LINES upon the forehead come—
Strokes alike of time and grief,
Branches from the heart beneath
That will never bear a leaf.

Come the summer, come the spring,
Still they keep their wintry hue;
Deepening, stretching o'er the brow,
Shadows lift them into view.

Straight and crooked, right and left,
On the strong and on the weak—
Upward to the hoary head,
Downward to the hollow cheek.

Shadows from the life within,
Tarrying ere they pass away,
Plant these stems of sorrow there,
Growing in the night and day.

Light that fills the eye afresh
From some inward moving grace,
Casting from it, as a sun,
Quiet rays upon the face—

Makes these ruts of time appear
Winding, widening in their space,
Drawing loving eyes and thoughts
All their history to trace.

Whilst upheaved by a smile,
Radiant in the breast of light,
These eternal scores of grief
Tell of many an inner night.

Stories come up from their roots,
Half unfolded in their course,
Shewing how a hundred pangs
Long ago became their source.

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